

Title (en)
METHOD FOR PRODUCING FINE TUNGSTEN POWDER

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES FEINEN WOLFRAMPULVERS

Title (fr)
PROCÉDÉ DE PRODUCTION DE FINE POUDRE DE TUNGSTÈNE

Publication
EP 2781285 A4 20151223 (EN)

Application
EP 12849043 A 20120829

Priority
• JP 2011250155 A 20111115
• JP 2012071760 W 20120829

Abstract (en)
[origin: EP2781285A1] The present invention provides a method for finely powdering tungsten powder, comprising dispersing tungsten powder in an aqueous solution containing an oxidizing agent to form an oxide film in the surface of the tungsten powder and removing the oxide film with an alkaline aqueous solution; a method for producing fine tungsten powder, comprising obtaining tungsten powder having an average particle size of 0.05 to 0.5 μm by a process including the above method for finely powdering; and a tungsten powder having an average particle size of 0.05 to 0.5 μm , in which the dMS value (product of an average particle size d (μm), true density M (g/cm^3) and BET specific surface area S (m^2/g)) is within the range of 6 ± 0.8 .

IPC 8 full level
B22F 9/04 (2006.01); **B22F 1/05** (2022.01); **B22F 1/052** (2022.01); **B22F 1/054** (2022.01); **B22F 1/145** (2022.01); **H01G 9/052** (2006.01)

CPC (source: EP US)
B22F 1/05 (2022.01 - EP US); **B22F 1/052** (2022.01 - EP US); **B22F 1/054** (2022.01 - EP US); **B22F 1/056** (2022.01 - EP US); **B22F 1/145** (2022.01 - EP US); **B22F 9/04** (2013.01 - EP US); **B22F 9/16** (2013.01 - US); **B82Y 30/00** (2013.01 - EP US); **H01G 9/042** (2013.01 - US); **H01G 9/0525** (2013.01 - EP US); **B22F 2301/20** (2013.01 - US); **B22F 2304/10** (2013.01 - US); **B22F 2998/10** (2013.01 - EP US); **Y10T 428/12181** (2015.01 - EP US)

Citation (search report)
• [X] US 3236634 A 19660222 - LAMBDIN JR FORAKER, et al
• [Y] US 6193779 B1 20010227 - REICHERT KARLHEINZ [DE], et al
• [Y] EP 2055412 A2 20090506 - STARCK H C GMBH [DE], et al
• [X] YONG HAN ET AL: "The effects of ball-milling treatment on the densification behavior of ultra-fine tungsten powder", INTERNATIONAL JOURNAL OF REFRACTORY METALS AND HARD MATERIALS, ELSEVIER PUBLISHERS, BARKING, GB, vol. 29, no. 6, 11 June 2011 (2011-06-11), pages 743 - 750, XP028252659, ISSN: 0263-4368, [retrieved on 20110628], DOI: 10.1016/J.IJRMHM.2011.06.010
• [X] JIQIAO L ET AL: "Particle size characterization of ultrafine tungsten powder", INTERNATIONAL JOURNAL OF REFRACTORY METALS AND HARD MATERIALS, ELSEVIER PUBLISHERS, BARKING, GB, vol. 19, no. 2, 1 March 2001 (2001-03-01), pages 89 - 99, XP004381989, ISSN: 0263-4368, DOI: 10.1016/S0263-4368(00)00051-2

Citation (examination)
• CN 101983804 A 20110309 - UNIV CENTRAL SOUTH
• JP S61201707 A 19860906 - TOSHIBA CORP
• See also references of WO 2013073253A1

Cited by
EP2786819A4

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 2781285 A1 20140924; **EP 2781285 A4 20151223**; CN 103945964 A 20140723; JP 2013151755 A 20130808; JP 5222437 B1 20130626; JP 5731558 B2 20150610; JP WO2013073253 A1 20150402; US 2014315039 A1 20141023; US 2017232508 A1 20170817; US 9669460 B2 20170606; WO 2013073253 A1 20130523

DOCDB simple family (application)
EP 12849043 A 20120829; CN 201280055853 A 20120829; JP 2012071760 W 20120829; JP 2012548166 A 20120829; JP 2013046891 A 20130308; US 201214357953 A 20120829; US 201715587235 A 20170504